CLIMATE NEWS

From Sheldon Whitehouse, Barbara Boxer, Jeff Merkley, and Brian Schatz
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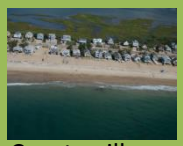
East Coast Set to See Higher Sea-Level Rise Than West



The East Coast will see particularly marked sea-level rise as a result of climate change if emissions continue at their current high rate, according to a growing body of research. A new paper published in *Nature Geoscience* modeled Atlantic sea levels rising faster than the Pacific. "When carbon emission rates are at present-day levels and higher, we see greater basin average sea-level rise in the Atlantic relative to the Pacific," said Dr. John Krasting, the lead author from the Geophysical Fluid Dynamics Laboratory of NOAA. "This also means that single global average measures of sea-level rise become less representative of the regional scale changes that we show in the study." Atlantic ocean waters circulate faster than in the Pacific due to a strong ocean circulation pattern called the Atlantic meridional overturning circulation, sometimes leading scientists to call Atlantic waters "younger." If climate change slows that circulation from the surface to the cool depths of the ocean, more warm water will pool below the surface. Warm water expands, raising sea levels. Other local effects, like land subsidence or changes to offshore winds, often mean sea-level rise does not occur in a uniform way across the world's coasts. U.S. Geological Survey researchers found that increased sea-level rise is already occurring, with rates along a portion of the East Coast three to four times higher than the global average. They have dubbed the region a sea-level-rise "hot spot." (EENews)

The Staggering Economic Cost of Air Pollution

Air pollution caused by energy production in the U.S. caused at least $131 billion in damages in the year 2011 alone, a new analysis concludes — but while the number sounds grim, it's also a sign of improvement. In 2002, the damages totaled as high as $175 billion, and the decline in the past decade highlights the success of more stringent emissions regulations on the energy sector while also pointing out the need to continue cracking down. "The bulk of the cost of emissions is the result of health impacts — so morbidity and particularly mortality," said the paper's lead author, Dr. Paulina Jaramillo of Carnegie Mellon University. Using models, researchers can place a monetary value on the health effects caused by air pollution and come up with a "social cost" of the offending emissions. Using their updated model the researchers found that the damages associated with these emissions were far higher than what had previously been estimated. "That's kind of the bad news," Dr. Jaramillo said. But, she added, there was an overall decreasing trend in the social cost of these emissions between 2002 and 2011. This suggests that policy changes in the past decade, including stricter controls on the emission of air pollutants, have proven effective. As Dr. Jaramillo pointed out, "It's not like we've started using or producing less energy." Rather, there's been a decrease in the pollution associated with energy production. (The Washington Post)

New Satellite Collects Sea Level Data to Monitor Climate Change

Scientists from the U.S. and Europe have a new eye in the sky monitoring the world's oceans. The Jason-3 satellite, launched on January 17, is the latest satellite to monitor rising sea levels. Scientists say data collected by satellites over the last two decades shows sea levels rising at an accelerating rate, which they say is an indicator of climate change. "Our satellite records of course only go back about 25 years. But we have measurements of how the oceans have been changing that go back thousands of years and in fact the past 2000 years have been very stable in terms of sea level and climate change. It's only in the last hundred or so years that rapid sea level rise has begun, driven by the warming of the planet," said Dr. Josh Willis, Lead Project Scientist for the Jason-3 mission at NASA's Jet Propulsion Laboratory (JPL). Dr. Lee-Lueng Fu, the project scientist for the Jason-2 mission at NASA's JPL, said the ocean covers 70 percent of the Earth's surface, and more than 90 percent of the heat trapped by greenhouse gases ends up in the ocean. "So we are entering a very unique time that greenhouse gas is increasing at an unprecedented pace --50 percent increase in less than 150 years so that's just a fact," he said. "So a lot of warming happening in a very short time and sea level is rising at a pace [that is] very rapid." (Voice of America)

Climate Change May Worsen the Spread of Zika and Other Diseases

The alarming spread of the Zika virus — caused in major part by the infamous Aedes aegypti mosquito, which can also carry dengue, yellow fever and chikungunya virus — is looking more and more like a public health catastrophe. Aedes aegypti, and all the diseases that it brings, are expected to thrive in a warmer climate. "Dengue mosquitoes reproduce more quickly and bite more frequently at higher temperatures," says the World Health Organization. And then there's the Asian tiger mosquito, Aedes albopictus, which is also a threat for transmission of dengue, Zika, and other diseases. Aedes albopictus has already expanded into much of the United States and as a recent study by a group of US mosquito control researchers at several state agencies and Rutgers University found, climate change should worsen that spread. (The Washington Post)